

2. (AMENDED) A load lock as set forth in Claim 1, wherein said load lock is formed at least in part by a first housing portion and an auxiliary housing portion that is removably coupled to said first housing portion.

3. (UNCHANGED) A load lock as set forth in Claim 1, wherein said wafer carrier is adapted for receiving only a pair of wafers.

4. (UNCHANGED) A load lock as set forth in Claim 1, wherein said wafer carrier includes at least an unload position and a load position.

5. (UNCHANGED) A load lock as set forth in Claim 1, wherein said wafer carrier is located on top of said elevator plate.

6. (UNCHANGED) A load lock as set forth in Claim 5, wherein said elevator plate is configured to move vertically in said load lock.

7. (AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said first and second ports open into said first chamber.

8. (UNCHANGED) A load lock port as set forth in Claim 7, wherein said load lock comprises a first housing portion and an auxiliary housing portion that at least partially defines the auxiliary chamber, said first and second ports being located on said first housing portion.

9. (UNCHANGED) A load lock as set forth in Claim 1, wherein said first port opens into said first chamber and said second port opens into said auxiliary chamber.

10. (UNCHANGED) A load lock as set forth in Claim 9, wherein said first port communicates with a wafer handling module.

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11. (AMENDED) A load lock as set forth in Claim 10, wherein said load lock comprises a first housing portion and an auxiliary housing portion, said first port being located on said first housing portion and said second port being located on said auxiliary housing portion.

12. (UNCHANGED) A load lock as set forth in Claim 9, wherein said second port communicates with a wafer handling module.

13. (UNCHANGED) A load lock port as set forth in Claim 12, wherein said load lock comprises a first housing portion and an auxiliary housing portion, said first port being located on said first housing portion and said second port being located on said auxiliary housing portion.

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14. (AMENDED) A load lock as set forth in Claim 1, wherein said first port is configured to receive said wafer carrier and said wafer carrier and said elevator plate being moveable between an outside position where said wafer carrier is outside said load lock and an inside position wherein said wafer carrier is inside said load lock.

15. (AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

 a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

 an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

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 said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber wherein said first port is configured to receive said wafer carrier and said wafer carrier being moveable between an outside position where said wafer carrier is outside said load lock and an inside position wherein said wafer carrier is inside said load lock, wherein said load lock further includes a second elevator plate configured such that said second elevator plate substantially closes said first port when said wafer carrier is in said inside position.

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16. (AMENDED) A load lock as set forth in Claim 15, wherein said second port opens into said auxiliary chamber.

17. (AMENDED) A load lock as set forth in Claim 15, wherein said second port opens into said first chamber.

18. (UNCHANGED) A load lock as set forth in Claim 1, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid.

19. (AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

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a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

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said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid and wherein said auxiliary fluid comprises HF vapor.

20. (UNCHANGED) A load lock as set forth in Claim 1, wherein said load lock further includes heating elements.

21. (UNCHANGED) A load lock as set forth in Claim 20, wherein said heating elements are located within said auxiliary chamber.

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22. (AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

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said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said

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auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said load lock further includes heating elements and wherein said heating elements are located upon the elevator plate.

57. (AMENDED) A system for processing substrates, comprising
a load lock chamber including a lower portion having a first inner width and an upper portion attached to the lower portion and having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;
an auxiliary processing system selectively communicating with an opening in the upper chamber;
a substrate handling chamber selectively communicating with the load lock chamber through the first port; and
at least one process chamber selectively communicating with the substrate handling chamber.

58. (UNCHANGED) The system of Claim 57, wherein the load lock chamber selectively communicates with a clean room environment through the second port.

59. (UNCHANGED) The system of Claim 58, wherein the first port is located in the lower portion.

60. (UNCHANGED) The system of Claim 59, wherein the second port is located in the lower portion.

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61. (AMENDED) A system for processing substrates, comprising
a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than

the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the first port is located in the upper portion.

62. (AMENDED) A system for processing substrates, comprising

a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the upper portion includes treatment gas injectors.

63. (UNCHANGED) The system of Claim 62, wherein the treatment gas injectors communicate with a source of HF vapor.

64. (UNCHANGED) The system of Claim 62, wherein the treatment gas injectors communicate with an oxidant source.

65. (UNCHANGED) The system of Claim 57, wherein the moveable platform includes two shelves for supporting substrates.

Please add the following new claims:

66. (NEW) The system of Claim 57, wherein said first port opens into said lower chamber and said second port opens into said upper chamber.

67. (NEW) The system of Claim 57, wherein said first port opens into said upper chamber and said second port opens into said lower chamber.

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COMMENTS

In response to the Office Action mailed June 5, 2001, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments. As a result of the amendments listed above, Claims 1-65 remain pending, Claims 66 and 67 have been added, and Claims 23-56 have been withdrawn as directed to a non-elected invention. Claims 1, 2, 7, 11, 14-17, 19, 22, 57, 61 and 62 have been amended.

The specific changes to the specification and the amended claims are shown on a separate set of pages attached hereto and entitled VERSION WITH MARKINGS TO SHOW CHANGES MADE, which follows the signature page of this Amendment. On this set of pages [or page], the insertions are underlined (e.g., insertions) while the deletions are in bold between brackets (e.g., [deletions]).

Objected to Claims 19, 22 and 61-64

Applicants not with appreciation that Claims 19, 22 and 61-64 are objected to as being dependent upon a rejected base claim and that the Examiner indicated that these claims contain patentable subject matter and would be allowable if rewritten into independent form. By this amendment, Claims 19, 22, 61 and 62 have been rewritten into independent form and are thus in condition for allowance. Claims 63 and 64 depend upon allowable Claim 62 and thus are also in condition for allowance.

Objections to the Drawings

The Examiner objected to Figures 2A, 3A, 3B, 4 and 5. With respect to Figures 2A, 3B and 4, the Examiner assert that the drawings must show every feature of the invention specified in the claims; thus, the first port and the second port must be shown or the features canceled from the claims. However, Figures 1, 3A, 3B and 5 clearly show the first port 34 and the second port 36. With respect to Figures 3A, 3B, and 5, the Examiner asserted that that the drawings must show every feature of the invention specified in the claims; thus, the wafer carrier must be shown or the features canceled from the claims. However, Figures 1, 2A, 2B and 4 clearly show the wafer carrier 50. As such, Applicants respectfully submit that the drawings are in condition for allowance.

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Matters of Form

Claims 2, 11 and 15 have been amended to correct the informalities noted by the Examiner.

Claims 1-6, 9-14, 18 and 20, 21

Claims 1-6, 9-11, 18, 20 and 21 stand rejected as under 35 U.S.C. 102(b) as being anticipated by Wytman (EP 0834907 A2). Claims 12-14 stand rejected under 35 U.S.C. 103 as being unpatentable over Wytman. Applicants respectfully disagree with these rejections and the Examiner's characterization the cited art. Nevertheless, to advance prosecution of the present application, Applicants have amended these claims to more particularly and distinctly claim Applicants' invention. Applicants reserve the right to pursue Claims 1-6, 9-14, 18 and 20, 21 in their original form in a continuing application.

As amended, Claim 1 now recites that the elevator plate includes "a wafer carrier that is adapted for receiving a plurality of wafers and is attached to said elevator plate." Wytman does not teach or suggest a load lock with the above noted limitation. Rather, Wytman discloses a load lock into which whole cassettes are placed and removed. See, e.g., Col. 2, lines 29-34. For at least this reason, Applicant respectfully submits that Claims 1-6, 9-14, 18 and 20, 21 are in condition for allowance.

Claims 7-8

Claims 7-8 stand rejected as under 35 U.S.C. 102(b) as being anticipated by Wytman. For at least the reasons set forth below, Applicant respectfully disagrees with this rejection.

According to the Examiner, Wytman teaches a load lock wherein the first and second ports open into the first chamber. However, the load lock of Wytman differs structurally from Applicants' claimed invention in several respects. For example, Figures 3A and 3B of the application show two ports 34, 36 opening into the lower chamber 22. In contrast, as shown in Figures 1-3 of Wytman, the loading door 16 opens into a first chamber 12 while the valve 18 opens into the lower chamber 14. See Column 6, lines 2-11. As a consequence, Wytman fails to disclose every element in Claims 7-8 and thus cannot anticipate Claims 7-8.

By this amendment, Claim 7 has been rewritten into independent form and Claim 8 depends upon allowable Claim 7. As such, Claims 7 and 8 are in condition for allowance.

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Claims 15-17

Claims 15-17 stand rejected under 35 U.S.C. 103 as being unpatentable over Wytman. For the reasons set forth below, Applicants disagree with this rejection.

In rejecting Claims 15, the Examiner admits that Wytman does not teach a load lock with a second elevator plate. See Paper No. 5, page 10. However, the Examiner fails to identify any teaching or suggestion in the cited references or the prior art in general for adding a second elevator plate to the load lock of Wytman. Applicants, in contrast, discuss particular advantages of a second elevator plate in connection with Figures 11A-11C. As such, the Examiner has not established a *prima facie* case of obviousness.

By this amendment, Claim 15 has been rewritten into independent form. Claims 16 and 17 depend upon allowable Claim 15. As such, Claims 15-17 are in condition for allowance.

Claims 57-60 and 65

Claims 57-60 and 65 stand rejected under 35 U.S.C. 103 as unpatentable over Wytman. Applicants respectfully disagree with this rejection and the Examiner's characterization the cited references. Nevertheless, to advance prosecution of the present application, Applicants have amended these claims to more particularly and distinctly claim Applicants' invention. Applicant reserves the right to pursue Claims 57-60 and 65 in their original form in a continuing application.

As amended, Claim 57 now recites a system for processing wafers that comprises "a load lock chamber including a lower portion having a first inner width and an upper portion attached to the lower portion" and "an auxiliary processing system selectively communicating with the upper portion of the load lock chamber through an opening in the load lock chamber." Wytman does not teach or suggest a load lock with the above noted limitations. Rather Wytman discloses a moveable sub-chamber 30 to facilitate loading and unloading of an entire cassette 11. For at least this reason, Applicants respectfully submit that Claims 57-60 and 65 are in condition for allowance.

New Claims

New Claims 66 and 67 depend on allowable Claim 57 and contain their own patentable subject matter.

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CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Respectfully submitted,

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